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EXAMINER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Specification

The amendment to the specification filed 17 March 2009 is acceptable.

Claim Objections

Claim 39 is objected to because of the following informalities: Line 3, “controlling one of said first and second motors and said assembly motor correlated with each other with respect to speed” is preferably expressed as “correlating control of one of said first and second motors and said drive with respect to speed”.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 38 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 38 recites in the penultimate line “... at a first motor speed greater than sad second motor speed and a predetermined torque...” whereby such relationship of speed of said first and second motors is not supported by the disclosure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 27, 29 – 30, 43 – 44 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leskinen et al (6,010,091) in view of Rosen (3,586,221).

Re: Claims 27 and 43, Leskinen et al disclose a method for threading a material web (W, Fig. 1) in a web processing machine (Fig. 1) including:

- providing a web receiving area (approximate 11, Fig. 1 & 3) in said web processing machine;
- providing a web delivery area (incl. 32, Fig. 2) in said web processing machine;
- providing a web threading path extending between said web receiving area and said web delivery area (defined by travel from 21, Fig. 2, through 40, along 62, Fig. 1, Col. 5, L. 44 - 61);
- providing a drive motor (to drive 12 at constant speed and/or chains 62, Col. 5, L. 58 & L. 49 – 50, respectively) at said web receiving area and a second drive motor (to power 34) at said web delivering area;
- regulating a second motor in said web receiving area at a predetermined web threading speed (Col. 5, L. 58 & L. 49 – 50) at said web delivery area;
- regulating a first motor in said web delivery area at a predetermined motor torque (Col. 3, L. 41, "... whose speed and/or pulling power may be regulated..."; Col. 6, L. 23 – 28); and
- at least one mechanically independent assembly (10, 30) in said web processing machine and a machine control (Col. 3, L. 18 & 41, Col. 6, L. 27)

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usable to provide speed relevant signals to said one of said first and second motors;

- maintaining a constant tension in said material web during said web threading operation at a predetermined web threading speed (Col. 6, L. 23 - 28 & 37);
and
- an electronic guide axis for said machine control and being usable to transmit said speed relevant signals (Col. 3, L. 46 – 49); however,

Leskinen et al are silent with respect to a first motor web threading drive means regulated at a predetermined motor torque and said second motor web threading drive means regulated at a predetermined motor speed.

Attention is directed to Rosen who teaches his method of threading a material web wherein a first motor web threading drive means (“push motor”) is regulated at a predetermined motor torque and a second motor web threading drive means (“pull motor”) is regulated at a predetermined motor speed (Abstract, Col. 1, L. 65 - Col. 2, L. 20) "... to prevent slack... at normal feed rates... and [to inhibit] ... undue stress on, and stretching or breaking of the [material web]..." (Col. 1, L. 29 – 34).

It would have been obvious to one of ordinary skill in the art to modify the reference of Leskinen et al with the teaching of Rosen to provide a “push-pull control” between "slave" and "master" motors when threading a material web "... in tandem motor systems..." for tension control ("... feeding at a uniform selected rate...") and avoidance of "... overloading of one or the other of the motors and [resulting] malfunction".

In reference to the claim language referring to *useable to provide correlated speed relevant input signals*, intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as

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compared to the prior art. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963).

Re: Claims 29, 44 and 51, Leskinen et al disclose a frequency converter and a calculating means (Col. 3, L. 40 - 49).

Re: Claim 30, Leskinen et al disclose their second reel body (32) and using said second motor for driving said second reel body for purpose of providing wound material and affording tension control independent of sheet/threading speed; however, Leskinen et al are silent with respect to a first reel body of his threading means.

Rosen, though teaching his threading means comprising first and second reel bodies (16 and 16), is silent with respect to about which his threading means is alternately wound and unwound from said first and second motors, respectively.

Though Leskinen et al are silent with respect to a first reel body about which their threading means is unwound, said second reel body having dedicated drive motor, such reel body and motor to provide constant, slightly higher peripheral speed for take-up of their web from their web delivery area would have been an obvious matter of design choice in view of the disclosure of Rosen.

It would have been obvious to one of ordinary skill in the art to modify the reference of Leskinen et al with the teaching of Rosen to provide first and second reel body in the reference of Leskinen et al from which their threading means is unwound and wound for performance.

Re: Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leskinen et al in view of Rosen and in further view of Anderson (4,531,166).

Leskinen et al and Rosen are silent with respect to regulating said first web threading means drive motor at said web receiving delivery area at a first motor speed greater than said second motor speed and at a predetermined motor torque during said rewinding of said a web threading means.

Attention is directed to Anderson who teaches the regulation of his first and second motors wherein his first motor speed is greater than his second motor speed at a predetermined torque to "... generate a predetermined amount of tension in [his web

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material]... the master “pulls” the [web material] slightly harder than the slave “pushes” it” (Col. 11, L. 63 – Col. 12, L. 55).

It would have been obvious to one of ordinary skill in the art to modify the invention of Leskinen et al and Rosen with the teaching of Anderson to utilize tachometers to measure the rotational speeds of the threading means in relation to the first and second motors to afford a desired tension based on differential speed at a predetermined torque.

Claims 31 – 32, 39 – 42, 45, 49 – 50 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leskinen et al in view of Rosen, as applied to Claims 30, Claims 27 and 43, respectively, and in further view of Leanna et al (4,280,669).

Re: Claims 31 - 32, Leskinen et al and Rosen are silent with respect to regulating at least one of their motors depending on a current diameter.

Attention is directed to Leanna et al who teach regulating a current diameter of his reel body (18) in their web receiving area (by means of 119 and 118) for regulating his first motor with respect to a current diameter of their reel body.

It would have been obvious to one having ordinary skill in the art to modify the invention of Leskinen et al and Rosen with the teaching of Leanna et al to regulate the first motor based on a current diameter of a reel body for feedback motor control within a control system to accommodate variation in torque and web speed for performance.

Re: Claim 39, Leskinen et al disclose at least one rotary drive (understood) for at least one mechanically independent assembly (12) in said web processing machine and controlling said first motor; however, Leskinen et al are silent with respect to a control of said *rotary drive* and said first motor with each other.

Rosen is silent with respect to a rotary drive of at least one mechanical independent assembly.

Attention is directed to Leanna et al who teach at least one rotary drive (D) for at least one mechanically independent assembly (28) in said web processing machine and

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controlling said first motor and said assembly motor with each other with respect to speed (Col. 21, Line 34 - 42).

It would have been obvious to one having ordinary skill in the art to modify the invention of Leskinen et al and Rosen with the teaching of Leanna et al to regulate at least one rotary drive of a mechanically independent assembly with a first motor to provide desired related speeds of a threading means and an associated web to optimize performance and reduce a potential for broke.

Re: Claim 40, Leskinen et al and Rosen are silent with respect to a material web changer.

Attention is directed to Leanna et al who teach their material web changer (23) having a reel changer drive correlated with each other with respect to their speed by using a machine control (Col. 18, L. 8 – 35 and Col. 22, L. 19 - 68).

It would have been obvious to one having ordinary skill in the art to modify the invention of Leskinen et al and Rosen with the teaching of Leanna et al to provide a material web changer approximate a web delivery area to promote production.

Re: Claim 41, Leskinen et al and Rosen are silent with respect to a reel printing unit.

Attention is directed to Leanna et al who teach their web processing machine having a reel printing unit (9, Fig. 1, Col. 10, L. 18) and printing unit drive (understood) further including controlling said second motor and said printing unit drive with respect to each other by using a machine control (understood, in order to maintain web tension/speed).

It would have been obvious to one having ordinary skill in the art to modify the invention of Leskinen et al and Rosen with the teaching of Leanna et al to provide a web processing machine having a reel printing unit for utility.

Re: Claim 42, Leskinen et al disclose their control device including servo control in terms of target and measured tension values for optimizing tension control of their web.

Re: Claim 45, Leskinen et al disclose their target value for their predetermined threading speed (Col. 6, L. 26 - 28), wherein a target value is compared to a "...value given by the measurement of tension" for regulating their drive gear.

Re: Claim 49, Leskinen et al disclose their second reel body (32) and using said second motor for driving said second reel body for purpose of providing wound material and affording tension control independent of sheet/threading speed; however, Leskinen et al are silent with respect to a first reel body of their threading means.

Attention is directed to Rosen his threading means comprising first and second reel bodies (16 and 16), wherein his first and second reel bodies are respectively driven by first and second motors (PSM and PLM, respectively).

It would have been obvious to one of ordinary skill in the art to modify the reference of Leskinen et al with the teaching of Rosen to provide a "push-pull control" between "slave" and "master" motors when threading a material web "... in tandem motor systems..." for tension control.

Claim 50, Leskinen et al are silent with respect to a rotation sensor.

Attention is directed to Rosen who teaches his rotation sensor (to generate V_{PLM}) on his second reel body commensurate with his overall system control.

It would have been obvious to one of ordinary skill in the art to modify the reference of Leskinen et al with the teaching of Rosen to provide a rotation sensor on one of either first and second reels as a feedback operating/control parameter for control systems.

Claim 52, Leskinen et al, Rosen and Leanne et al disclose a control device *useable* to regulate said other of said first and second motors with respect to torque.

Claims 33 – 36, are rejected under 35 U.S.C. 103(a) as being unpatentable over Leanna et al and Rosen in view of Leskinen et al, as applied to Claims 31, 44 and 43, respectively, in further view of Kampf (4,387,861).

Re: Claims 33 – 36, Leskinen et al and Rosen are silent with respect to regulating a current diameter of their reel body.

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Leanna et al teach speed control of their web processing machine through their pulse generator (119) and frequency converter (T) for input to his control device (118) to regulate his first motor, regardless of the thickness of his web (Col. 8, L. 37 – 59).

Attention is directed to Kampf who teach the prior art of regulating a first motor with respect to a reel body current diameter (Col. 1, L. 32) as well as his inventive feature of regulating his first motor independent of his reel body current diameter (Col. 2, L. 26), therein in the alternative to:

- including providing a control device and using said control device for determining a target value of a frequency load to said at least one motor depending on said reel body current diameter.
- including determining said current reel body diameter depending on a number of layers of said threading means wound on said reel body and a thickness of said threading means and further depending on an initial diameter of said reel body.
- including providing a rotation sensor on one of said reel body and its drive, calculating a number of rotations of said reel body and using said number of rotations for determining said number of layers of said threading means wound on said reel body.
- including determining said number of rotations of said reel body in said receiving area.
- including determining said number of rotations of said reel body in said delivery area.

Nevertheless, in that Kampf briefly reviews the prior art in which the detection of a reel body current diameter is a control parameter, the aforementioned rotation sensors and determining of reel body diameter depending on a number of layers of said threading means would have been obvious to one having ordinary skill in the art.

It would have been obvious to one of ordinary skill in the art to modify the invention of Leskinen et al, Rosen and Leanna et al with the teachings of Kampf to

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determine a current reel body diameter in terms of a layering of threading means to for enhancement of tension control.

Response to Arguments

Applicant's arguments with respect to **Claims 27, 38 and 43** have been considered but are moot in view of the new ground(s) of rejection.

The rejections of the previous office action were in response to the claim language. Applicant's arguments are *in part* based on the amended claim language applied to the prior art of record; consequently, this office action comprises a detailed response to Applicant's arguments.

With respect to applicant's comment as to the mapping of the web receiving and delivery areas of the reference of Leanne et al in the office action mailed 17 December 2007, applicant's comment is valid, in that the numerical designations associated with both were inadvertently interchanged; however, the subsequent threading path was mapped in accordance with said areas as intended and as understood by applicant.

With respect to Applicant's arguments against the references individually, the references were cited for their relevant teachings as to operating parameters associated with tension control and threading of a web material.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Traise (3,955,737), Ueyama et al (2004/0108403) and Drake (1,925,866) are cited for methods and devices for threading a web in a web processing machine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Kruer whose telephone number is 571.272.5913. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Q. Nguyen, can be reached on 571.272.6952. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free).

/Stefan Kruer/

Examiner, Art Unit 3654

16 July 2009

/John Q. Nguyen/

Supervisory Patent Examiner, Art Unit 3654